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Volume 15 – No. 1

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THE EDITOR SAYS:

I

As if to prove Bennett's Law No. 1*, Dr. Frank Rogers' talk Dec. 7, 1960, at UCLA on the NATIONAL LIBRARY OF MEDICINE via Billings, Fletcher, & Garrison, pointed an admiring finger at some very outstanding librarians. Respectively named the mind, heart and soul of NLM, the life span of these three men shaped and directed a small collection and book handling service into the giant collection and varied research services it is today. For example, a flyer to advertise the new INDEX MEDICUS in 1873 named the library of the U. S. Surgeon General's Office as "THE NATIONAL LIBRARY OF MEDICINE" a name it has only recently acquired by Act of Congress.

Impressive as was this history through biography, an even stronger impact is being made now — today and tomorrow — by the speaker, Dr. Rogers. Here is a giant walking among us. Through his efforts and the Friends of the Library, a magnificent building is being erected to house a collection which overflowed the old building 30 years ago. One sobering note reflecting the times is that the old building cost $3.00 per square foot; the new one cost $30.00. Provisions have been made for the sculptured portraits of Billings, Fletcher and Garrison. It is hoped they left room for one more: Frank B. Rogers.

II

Our next issue will contain a special supplement to the BIBLIOGRAPHY DIGEST. These are items which have been accumulated but not included for various reasons. It is hoped they will be of use to you, even if of older vintage.

*Bennett's Law No. 1: Most libraries are the same — it is the people who run them that make them interesting.

ANNOUNCEMENT

The SCI-TECH AWARDS COMMITTEE is asking the membership for suggestions of names to be considered for the Sci-Tech Award of Merit and for the Sci-Tech Publication Award for 1961. Information on the awards and their recipients can be found on page 109 of the Winter 1960 issue of SCI-TECH NEWS.

Please send nominations to the Chairman as soon as possible but not later than April 14, 1960.

JOHN M. FERTIG
(Chairman Sci-Tech Awards Committee)
Westinghouse Research Laboratories
Beulah Road, Churchill Borough
Pittsburgh 35, Pennsylvania

FROM

SCI-TECH'S CHAIRMAN

H. S. WHITE

The Secretary's report of the meeting of the Advisory Committee in Kansas City which appears elsewhere in this issue gives a careful account of what transpired at the session. But it is, as it should be, a factual account which, by its very nature, must avoid impressions and subjective evaluation. Those of us who attended and participated in the meeting got more from the meeting than the Secretary's report could or should provide.

First, there was the very real satisfaction from the realization that we are all members of an active, dynamic organization. The reports from the Sci-Tech groups within the various chapters are an account of librarians who are not only contributing to the Special Libraries Association with their activities but are advancing the profession as a whole. Particularly commendable are the work of the Boston Chapter in its course for beginning librarians to which one member commuted from Pennsylvania, the sponsoring of exhibits and a seminar by the New York Chapter and the project undertaken by the Rio Grande Chapter. The careful recording of the 7000-8000 different report codes used by the issuing agencies stresses the need for standardization in this new literature.

The satisfaction which each of us merits by virtue of our membership should not hide the fact that we do have, as an organization, our problems. We are uncertain of just what our objectives should be. The Petroleum Section report pointed this out quite emphatically. A part of the membership is interested in the refining of petroleum; the remainder is concerned with exploration and production. The Section and Division Structure study indicates we should re-examine our organization. The study implies that there are benefits to be obtained from small groups working on mutual problems but two of our Sections have memberships in excess of a thousand each. Then there is the problem even in the relatively small Sections of communication among the members.

Scientific Meetings has proven to be a successful publication. Thanks to the efforts of two of our members who have unselfishly donated their time and energies over the past five years, the Division publication has built a subscription list in excess of 500 and brought a healthy revenue to the Division treasury. Five years of service is a long time and both the editor and business manager have asked to be relieved of their responsibilities and in conjunction with the Chairman of the Foundation Committee have suggested that the publication be released to SLA. The Executive Committee was quite concerned about this. It would be a great loss to the Division both from the viewpoint of prestige and from revenue. The unfairness of continuing the assignment was recognized. Also it was pointed out that the function of the Division is to initiate projects of this sort and when the projects prove so successful that their value is no longer limited to the originating Division, they should be made available to the Association.

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THE IBM RESEARCH MACHINE

By E. C. Smith, Jr., Field Mgr., Univ. & Research Inst. Program

It has been said that the railroad industry was shortsighted in that it believed its business was railroading, rather than transportation. The Information Retrieval community while not an industry is in danger of falling victim to the same kind of shortsightedness. Information Retrieval is much broader than mechanized systems of indexing and cataloguing. The problem is the storage, location and presentation of information in response to a specific query. If an Information Retrieval System presents the user with a book written in Hungarian and the user does not read Hungarian, the desired information simply has not been retrieved and for that user the system is no better than no system at all. One can envision the ultimate Information Retrieval System as one which will automatically translate natural languages and even search documents and make statistical analysis for the user.

The present day impetus for mechanical translation of natural languages comes from the technological race in which our society finds itself. It has been estimated that there are between 9,000 and 10,000 scientific journals presently being published in some thirty-five languages. Russia produces information which should be read by somebody in this country at the rate of at least 100 words per second. Clearly, all of this is not being translated and referred to interested parties in this country.

From all indications there is greater effort in Russia put upon language translation than there is in the western world. It has been estimated that some twenty different language pairs are being actively studied by linguists and computer technicians behind the Iron Curtain. Efforts are being undertaken at the Cambridge Language Research Unit in England, at the University of Milan in Italy, at the Federal University of Mexico and in Japan.

In the United States, Harvard, MIT, and Georgetown University have had active research groups studying mechanical translation for several years. More recently, efforts have been undertaken at the University of Texas, University of California, University of Washington, Rand Corporation, Ramo Wooldridge Corporation, The National Bureau of Standards and IBM. All except the last group are using commercially available general purpose computers. This somewhat dictates that they must take an analytical approach to the linguistic problems of semantics and syntax. A detailed logical analysis of the structure of the Russian language is being undertaken.

A different approach is being taken by a group at the IBM Research Laboratory at Yorktown Heights, New York. This group has built a special machine with a large random access storage which allows passable translation with a minimum of logical analysis. A Russian dictionary of some 50,000 word stems is stored in the machine. Idioms and short phrases can also be stored so that by a dictionary look-up procedure the correct translation for complete idioms can be found without analysis of the roles played by the individual words in the idioms. The translation produced is admittedly rough. However, the purpose of this effort is to produce a translation which is intelligible, even if not beautiful English. This project is partially sponsored by the United States Air Force. Weekly issues of the Russian newspaper, **Pravda**, have been translated into rough but meaningful English since June, 1959.

The unique storage media of the IBM research machine is a glass disc which has thirty million bits of information put onto it by a photographic process. A sharply focused beam of light scans the disc, chooses the correct concentric track of information, matches a Russian word from the input mechanism to a Russian word in the dictionary, and reads from the disc an English translation which is then automatically printed. Approximately twenty words a second can be translated in this manner. While this is slower than the present day need and the translation is rougher than some may desire, the project is operating and serving today a useful intelligence function. Furthermore, the hardware techniques exemplified here show promise of application in other Information Retrieval areas.

REPORT NUMBERS — BOON OR BUGABOO *

William H. Richardson

Sandia Corporation Library

It all began with OSRD. During World War II the Office of Scientific Research and Development was responsible for the production of thousands of technical reports. This new form of literature was distinguished by the absence or de-emphasis of personal au-

thors, and a confusion of division numbers, contract numbers, project numbers, and classification numbers. Forced to create a device for bibliographic identification, the OSRD established a system of assigning arbitrary identification numbers to technical reports. After World War II the growth of research programs by many government agencies increased the types of numbering systems faster than the number of government laboratories and private contractors issuing reports. In spite of collective efforts, both inside and outside the Federal government, to achieve standard numbering systems, very little has been accomplished.

As a result, some librarians duck the problem of coping with the chaos and refuse to use report numbers. They simply assign their own accession number and depend upon conventional author, title, and subject approaches. While report numbering systems are confusing, the advantages of using them seem to me to outweigh the disadvantages.

Bibliographic identification by report numbers is a simple, brief method of referring to a report on receipts and request forms. It has the additional advantage that classified reports can be cited by the report number in the open literature. Report numbers are convenient to use on inventory lists, punched cards, and other record keeping devices. Report numbers are useful in distinguishing all various parts of a series of reports, all bearing the same title, written by the same authors, and having no other unique characteristics except date.

Report numbers provide a convenient filing device for technical reports. Filing by report number eliminates the need for a file of cross references from report number to accession number. Furthermore, filing by report number can bring together all reports from the same source provided a basic principle of report numbers is followed: "A report number should definitely establish the source of a report and it should clearly identify the report to which it is assigned, and no other."

The disadvantage of using the report number as a filing device is that room has to be left at the end of each series for expansion. Therefore a certain amount of shifting is necessary to provide this room, unless one is blessed with almost unlimited filing space.

But to return to my original theme, the major drawbacks to the use of report numbers for bibliographic identification are that many technical reports have no numbers, some have numbers which do not completely identify them, and some have two or more numbers. thus creating the problem of which number to use. Individual libraries are thus forced to adopt a policy regarding their use of report numbers when they occur, and rules for assigning report numbers where none occur.

Perhaps the policy followed at Sandia Corporation Library would be of some interest. I set it out here to illustrate the different kinds of problems we have encountered and the steps we have taken to solve them.

First of all, Sandia Corporation Library follows the general policy of the AEC, i. e., " . . . to recognize all distinctive number series and to add no number except to those reports which either do not bear any number or do not bear a reasonably discrete notation."

We deal with particular cases as follows:

I. One number is printed on the report.

A. Some reports bear internal report numbers which are unreasonably long because they designate contract number, authorship, date, classification, project number, geographic location, etc., and the factors so identified are not apparent to anyone outside the originating agency. On the other hand, many numbers are fairly simple and include identification of the source, the series of the report (TR for Technical Report, PR for Progress Report, etc.), the year of the report, and a serial number. Conditioned by the "reasonably discrete" rule, we use the number of the originating agency, clumsy or not.

B. Sometimes, however, the only number found on a report is assigned by a distributing agency, not by the originating agency. Examples are AD- (Armed Services Technical Information Agency), ATI- (Central Air Document Office), NP- (Atomic Energy Commission), PB- (Office of Technical Services), and U- (Navy Research Section, Library of Congress). If the source is a well-known one, such as NYU, the report number is assigned as NYU-AD- and the AD number is an added entry. If, however, the source of the report is an obscure agency, from which few reports will be received, we use the AD number only.

II. Two or more usable numbers are on the report.

A. The report is a joint effort of two or more government agencies. Here the choice is determined by the number most likely to be requested. The other number or numbers are used as cross references.

B. One number is that of the originating agency and the other is that of the issuing agency. This occurs when a contractor such as MIT or GE originates a report on work done for the AEC. The issuing agency will also assign a number, such as AFOSR— (Air Force Office of Scientific Research, ONR — (Office of Naval Research), ABMA — (Army Ballistic Missile Agency), and AECU — (Atomic Snergy Commission). In this instance we prefer to use the number of the issuing agency; the

(Continued on Page 9)

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number of the originating agency is a cross reference. The corporate author entry, however, is that of the originator.

III. No number or only part of a number is on the report.

A. There is no code to indicate the source but the type of report is indicated and the number of the report in that type is given, e.g., TR-201.

Here we must create the code indicating the source. We usually use the initials of the originating agency or an acronym by which the agency is well-known. Examples are AIDA for Accociazone Italiana Di Aerotecnica, or ALCOA for the Aluminum Company of America. In the latter case, the whole report number would be ALCOA-TR-201.

For progress reports, we devise a source code, follow it by the last group of numbers from the contract, then the letters PR, and the progress report number (if given) or the year and month of the report. Example: ABEC-6243-PR-2.

B. No part of a report number is found.

Not only the code for the source must be devised, but also a serial number assigned to the report. We add the letter Q to show that the serial number is merely an accession number. Example: ABEC-Q-1. The number indicates that this is the first unnumbered report received from Amphenol-Borg Electronics Corporation.

When devising source codes, we take care of course to use the same source, so that all such reports will file together. In addition, we must avoid duplicating already existing codes for new sources. (There are some published lists of codes which will be helpful in devising new ones.)

1 For a more complete discussion of the evolution of report numbering systems, see the article by Bernard M. Fry, "Cataloging government technical reports" in Weil, B. H., ed., **The Technical Report,** Reinhold, 1954. p. 255-343.

2 Sturm, P. K., "Some thoughts present on numbering systems," **Technical Data Digest,** Vol. 16, No. 9, Sept. 1951, p. 5.

3 Warheit, I. A., "Bibliographic identification and organization" American Documentation. 3:106. April 1952.

4 Central Air Documents Office Preliminary Survey of Report Numbering Systems. Dayton, Ohio, 1950. 70 p.

Office of Technical Services
Government Document Series analyzed by OTS
Edited by Grace Swift. (Processed)
1947. 36 leaves.

Special Libraries Council of Philadelphit and Vicinity. **Correlation Index: Document Series and PB Reports.** Compiled by the Science-Technology Group, Special Libraries Council of Philadelphia and Vicinity, with the cooperation of Office of Technical Services, U. S. Dept. of Commerce, Washington, D. C. Ed. by Gretchen E. Runge. New York, Special Libraries Asso., 1953. "Key to series abbreviations," pp. 221-250.

United Kingdom Atomic Energy Authority. **Guide to U.K.A.E.A. Documents.** Ed. by J. Roland Smith. London, 1958. 20p.

U. S. Armed Services Technical Information Agency. **Corporate Author Headings.** Ed. by Eleanor J. Aronson. Arlington, Va., 1957. "App. I: List of Abbreviations", pp. 317-348.

USAEC. **Report Numbers Series used by the Technical Information Service in cataloging Reports.** Compiled by Charlotte F. Chesnut, Frances E. Stratton. Oak Ridge, Tenn., Technical Information Service Extension, 1957. 112p. (Its TID-85, 1st Rev.)

USAEC. **Report Number Series used by the Technical Information Service in cataloging Reports.** Compiled by Frances E. Stratton. 2nd. Rev. Ed. Oak Ridge, Tenn., Tech. Info. Serv. Ext., 1960. 116p. (Its TID-85, 2nd Rev.)

* Reprinted from Rio Grande Chapter Bulletin, Sept. 1960.

BIG WORDS

Some years ago, the research librarian in the Metallurgy Department of the National Bureau of Standards received the following inquiry: "I have some white metal bearings that I wish to clean. Will strong muriatic acid do the trick?"

After some scrounging of information, the librarian responded: "Alloys of tin, lead, antimony and related metals tend to dissolve in high ionized solutions of mineral acids, especially hydrochloric. A procedure such as you propose will induce a rapid perferential disintegration of the metallographic constituents, culminating in a complete dissolution of the matrix."

The taxpayer then wrote a polite thank you note and said he was glad to learn that muriatic acid would do the trick.

Quickly and somewhat worried the librarian answered as follows: "Your attention is again called to our previous admonition concerning the powerful tendency of concentrated hydrochloric acid not only to remove the corrosion products from the bearings but also to dissolve a prohibitively great portion of the metal itself. Even the presence of an inhibitor will scarcely afford the necessary protection because of the extremely low pH."

The long suffering citizen again wrote in, saying how delighted and grateful he was and that he would proceed at once to clean his bearings.

At that the Bureau, now thoroughly frightened, sent a wire to the fellow that read:

"Don't use muriatic acid. It will eat hell out of your bearings."

(Ed. Note: Don't come to me! Charlotte Georgi, BA Libe at UCLA contributed this!)

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CHEMISTRY

1. **Advances in analytical chemistry of U, Th, and Pu.**
   V. I. Kuznetsov, S. B. Savvin, and V. A. Mikhailov. USP. KHIM. 29:525-567, Apr. 1960.

In Russian. The chemical method for determining U, Th, and Pu are reviewed, and analytical reactions with these elements are discussed. 925 references.

2. **Amperometric titrations.**
   H. A. Laitinen. ANALYT. CHEM. 32: 180R-185R, Apr. 1960.

A review with 133 references.

3. **Annotated bibliography on the use of organolithium compounds in organic syntheses.**
   Florence Emert, R. W. Gibson, Jr., and R. L. Darby. Columbus, Ohio, Mattelle Memorial Institute, Library; for Lithium Corporation of America, Jan. 1, 1960. unpaged. (Suppl. 7)

Contains 1959 material. Main emphasis is the use of alkyland and aryllithium compounds in Grignard-type reactions. Scope has been broadened to include abstracts of papers dealing with use of lithium metal as a reducing agent in ammonia and low molecular weight amines, reflecting current interest in this type of reaction. Use as catalysts or initiators in various polymerization procedures is also included.

4. **Electroanalysis and coulometric analysis.**
   D. D. DeFord. ANALYT. CHEM. 32: 31R-37R, Apr. 1960.

A review with 164 references.

5. **Fluorometric analysis.**
   C. E. White. ANALYT. CHEM. 32:47R-53R, Apr. 1960.

A review with 238 references.

6. **Inorganic microchemistry.**
   P. W. West. ANALYT. CHEM. 32:71R-79R, Apr. 1960.

A review with 246 references.

7. **Volumetric and gravimetric analytical methods for inorganic compounds.**
   F. E. Beamish and J. A. Page. ANALYT. CHEM. 32:249-R-261R, Apr. 1960.

A review with 152 references.

COMMUNICATION

8. **A bibliography of information theory (communication theory - cybernetics). (Third supplement).**
   F. Louis and H. M. Stumpers. INST. RADIO ENGRS. TRANS. IT-6:25-51, Mar. 1960.

Arrangement of this extensive non-annotated bibliography is as follows: General; Bandwidth and transmission capacity; Definition, entropy, relation with statistical mechanics; Correlation, filtering, prediction; Detection (including radar); Speech; Other biological applications; Television; Miscellaneous applications; Mathematics; Coding, decoding.

9. **Voice communications studies.**
   J. W. Black. Columbus, Ohio, Ohio State University Research Foundation, Dec. 29, 1959. 17p. (Rept. 398) (Contract N6onr-255(25)) (PB 152 172) Order from LC mi. $2.40 ph $3.30.

This bibliography of 109 references may be viewed as related to these topics: (1) voice intelligibility; (2) dimensions of voice; (3) problems in listening; (4) hearing oneself, side tone; (5) the language of voice communication; (6) problems in hearing; (7) the evaluation of equipment.

CRYSTALS AND CRYSTALLISATION

10. **Influence of inhibitors in electrocrystallisation.**
    H. Fischer. ELECTROCHIM. ACTA. 2:50-96, Feb. 1960.

In German with an English abstract. A review of the present state of research, with 34 references.

11. **Measurement of elastic moduli of various crystal structures.**
    Burbank, Calif., Lockheed Aircraft Corp., Jan. 1960. 25p. (Rept. SRB 60-1)

Includes 90 annotated references selected from Science Abstracts and Chemical Abstracts.

12. **Techniques of hydrothermal crystallization with special reference to quartz, 1947-1958.**
    N. M. Morris. New York, Bell Telephone Laboratories, Technical Information Libraries, Publication Department, Sept. 1960. 15p. (Bib. 41)

There are 222 references (no annotations) to periodical articles, books, patents, and federal government publications, arranged chronologically.

DUST CONTROL

13. **Bibliographical study on dust control engineering; methods, equipment and applications.**
    G. I. Chandler. Downey, Calif. Autonetics, Mar. 31, 1960. 122p. (Rept. EM-5980) (AD-242-213)

This bibliography was prepared to serve as a literature guide on dust analysis and equipment in their application to environmentally controlled dust-free areas at Autometics. The 340 references, which include books, reports, papers, and periodical articles, cover the following subjects: (1) particle motion studies and the

Brownian movement; (2) principles and methods of particle analysis and size determination; (3) theory and comparrison of equipment and instrumentation for dust analysis; (4) special techniques, including electron microscopy; (5) filters and filtration; and (6) dust control in industry. References are arranged by author under the year of publication. Material dates from 1827, with emphasis on information published between 1950 and 1959. The report is partially annotated; abstracts are included where possible. An author index, and a subject index in outline for mfollow the abstracts.

IONOSPHERE

14. Recent literature on ionospheric radio propagation.
Geza Thuronyi. METEOR. & GEOASTROPHYS. ABS. 11:742-782, May, 1960.

The 172 annotated references cover general works, theories, ionospheric structure and variations, radio propagation phenomena, type of propagation, relationships and influences, applications, and instruments and methods.

15. Recent literature on physics of the ionosphere.
Geza. Thuronyi. METEOR. & GEOASTROPHYS. ABS. 11:584-620, Apr. 1960.

General works, theories, physico-chemical factors and processes, structures, variations, relationships and influences, applications, instruments, and methods of investigation are among the subject aspects covered in 162 references, with detailed annotations.

16. Recent literature on the ionosphere.
Geza Thuronyi. METEOR. & GEOASTROPHYS. ABS. 11:928-967, June 1960.

There are 160 annotated references in this, the last of three compilations on the ionosphere. The Outline of Contents accompanying this bibliography includes references to all three. See items 14 and 15.

17. Upper asmosphere properties, 1952-1959.
E. C. Gergely and N. Farley. New York, Bell Telephone Laboratories, Technical Information Libraries; Publication Department, Mar. 1960. 50p. (Bib. 40)

"Upper atmosphere" as defined for this listing of about 300 references, is the atmospheric region above 50 miles consisting of the ionosphere and the exosphere. There are no abstracts or notes.

LIQUID METALS

18. Liquid metal technology. A literature search.
J. M. Jacobs. Oak Ridge, Tenn., Atomic Energy Commission, Technical Information Service, Jan. 1960. 27p. (TID-3544)

The 217 non-annotated references to unclassified reports and published literature supplement those included in Heat Transfer and Fluid Flow (see item 45, vl. 13, Summer 1959). Available from OTS, 75c.

19. Liquid metals.
Washington, D. C., Office of Technical Services, Aug. 1960. 10p. (Selective Bib. 424)

A bibliography of 179 references to report literature listed in U. S. Government Research Reports; and Technical Translations. Available from OTS, 10c.

LITHIUM

20. Bibliography of nonferrous alloys containing lithium.
Philadelphia. Pa., Foote Mineral Co., 1960. 20p (Tech. Data Sheet 202) Available from the Company at 18 N. Chelten Ave.

The 300 items cover alloying with 30 different metals. The sheet also discusses the alloying qualities of Li.

21. Metal science and technology of lithium.
H. Bechtel. METALL. 14:718-725, 1960.

The physical and chemical properties of Li, its production, refinement, and technical applications are reviewed. There are 242 references.

MAGNETOHYDRO-DYNAMICS

22. Magneto-fluid-dynamics. Bibliography I and appendix.
Paris, France, North Atlantic Treaty Organization, Feb. 1960. 1 in. thick. (AD-1236 361)

Also available from Permagon Press, New York. 692 citations are listed, alphabetically, followed by a separate listing of abstracts for the same publications.

23. Magnetohydrodynamics.
Washington, D. C., Office of Technical Services, Aug. 1960. 8p. (Selective Bib. 426)

A bibliography of 122 report references listed in U. S. Government Research Reports, and Technical Translations. Available from OTS, 10c.

24. Plasma physics and magneto-fluid-dynamics.
R. Rodabaugh. Pasadena, Calif., California Institute of Technology. Jan. 1960. 175p. (Astronautics Information Lit. Search 183) (Contract NASw-6) (AD-241 517)

The majority of the 903 annotated references are dated 1947-1959. Subjects covered include magneto-aerodynamics; properties of ionized gases; ion-molecule collision studies; spectrographic studies; confinement; pinch effect; vortex; stability; turbulence; oscillations; fluid mechanics; heat transfer; radiation; propulsion; stellarator; generator; relativistic hydromagnetics; and cosmic and terrestrial applications.

MASERS

25. Masers.
Edda Barber, Pasadena, Calif. California Institute of Technology, Jet Propulsion Laboratory, Feb. 15, 1960. 32p. (Lit. Search 57) (Contract NASw-6) (AD-234 834)

In this bibliography there are 214 annotated references to periodical articles and research reports. Both gas and solid-state masers are covered. A previous search on this subject by Louanne Kalvinskas, published as JPL Memorandum 20-157, has been incorporated.

26. Progress in solid-state masers.
A. Siegman. J. RES. (NBS) 64D:758-762, Nov./Dec. 1960.

Approximately 100 references to the literature are included in this review of various types of masers.

METALS

27. Alkali metals: lithium, sodium, potasium rubidium, and cesium.
Washington, D. C., Office of Technical Services, Jly. 1960. 37p. (Selective Bib. 421)

A bibliography of 672 references, covering reports added to OTS collection from 1950 to July 1960.

28. Alkali metals as propellants.
Alfred Buchler and Joan Berkowitz.

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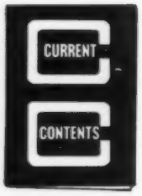

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Cambridge, Mass., Arthur D. Little, Inc., Nov. 1959. 91p. (AFMDC TR-59-40) (Contract AF29(600)1625) (AD232-709) (PB 146 011) (L. C. mi. $5.40, ph. $15.30)

Includes 135 references.

29. Bibliography of hafnium.

Eleanor Abshire and Sarah Notestine. Washington, D. C., U. S. Dept. of the Interior, Bureau of Mines, 1960. 30p. (Info. Circ. 7928)

For sale by Supt. Documents. Includes 670 journal references, with a subject index, on Hf and its compounds dealing with extraction, fabrication, testing, and properties.

30. Diffusion in metals.

P. G. Shewmon and F. R. Winslow. INDUS. & ENG. CHEM. 52:343-346, Apr. 1960.

A review, with 105 references, on pure metals; alloys; interstituals; solutions; and interfaces. For earlier listing, see item 150, Winter 1959.

31. Dislocation damping in metals.

D. H. Niblett and J. Wilks. ADVANCES IN PHYS. 9:1-88, 1960.

A review with many references.

32. 1960 review of technical literature on metal working Engineering Index references for November 1959 - February 1960.

New York, ASME Metal Processing Activity, Production Engineering Div., 1960. 28p.

Review consists of brief abbstracts of 153 selected references on the following subjects: metal-cutting analysis; metal-cutting practice; grinding; cutting fluids; and plastic working of metals.

33. Notes on the diffusion bonding of metals.

R. M. Evans. Columbus, Ohio, Defense Metals Information Center, Apr. 1960. 7p. (Memo. 53) (PB-161 203, 50c)

A literature survey with 23 references of fundamental studies of diffusion phenomena, and the various processes, techniques, and applications of diffusion bonding.

METEOROLOGY

34. Annotated bibliography on numerical forecasting. (Second supplement).

Geza Thuronyi. METEOR. & GEOASTROPHYS. ABS. 11:415-466, Mar. 1960.

Previous bibliographies on this subject appeared in Meteor Abs. and Bib. 5:734-758, June 1964; and 8:804-840, June 1957. Together, the three compilations contain some 500 items organized and indexed for the user's convenience.

35. Bibliography of outstanding reference works of the past decade.

Malcolm Rigby. METEOR. & GEOASTROPHYS. ABS. 11:101-143, Jan. 1960. 265-319. Feb. 1960.

This two-part bibliography of 265 annotated items represents an attempt to review the major sources of organized reference material on meteorology.

NOISE

36. Bibliography on transformer noise.

F. Von Voigtlander. POWER APPARATUS & SYSTEMS 50:735-740, Oct. 1960.

This is a revision of an earlier bibliography and is extended to include foreign references. The number of items totals 158.

37. Introductory bibliography on electrical interference.

G. I. Chandler. Downey, Calif., Autonetics, Jly. 29, 1960. 32p. (Rept. EM-6214) (AD-241 743)

In this bibliography on electrical interference, an attempt has been made to provide references on general noise theory as well as specific information relating to dc motor noise generation and suppression techniques. The literature search includes publications from 1931 through 1960. There are 118 references divided into five groups by subject, arranged in alphabetical order and followed by an author index.

PLATINUM

38. Iridium-platinum alloys: a critical review of their constitution and properties.

A. S. Darling. PLATINUM METALS REV. 4:18-26, Jan. 1960.

A survey based on 32 references. The constitutional diagram, physical and mechanical properties, corrosion and oxidation resistance. Applications (electrical contacts, precision resistors and slide wire potentiometers, instrument suspensions, hairsprings, etc.). (Brit. Non-Ferrous Met. Res. Assoc. Bull. p. 88, Mar. 1960)

39. Platinum and allied metals.

Washington, D. C., Office of Technical Services, Jly. 1960. 8p. (Selective Bib. 420) 10c

A bibliography of 118 reports listed in the two OTS monthly abstracts journals: U. S. Government Research Reports, and Technical Translations. Reports listed cover metals, alloys, and compounds of platinum and allied metals (such as palladium, osmium, iridium, and rhodium). These include reports added to the OTS collection during the period 1945 to July 1960.

ROCKETS

40. Review of the ion rocket with emphasis on the duoplasmatron source.

M. A. Hoffman, R. J. Hayes et al. Cambridge, Mass., Massachusetts Institute of Technology, June 6, 1960. 102p. (AD-240 813)

Includes 48 references.

41. Nozzle erosion in solid propellant rocket motors.

G. R. Evans. Sunnyvale, Calif., Lockheed Aircraft Corp. Missiles and Space Division, Jly. 15, 1960. 58p. (Rept. SB 60-22)

ASTIA holdings are included in this bibliography of 225 non-annotated items. Some classified material is cited.

42. Plastic and composite materials used in rocket motors, nozzles, and pressure vessels.

A. A. Beltran and G. R. Evans. Sunnyvale, Calif., Lockheed Aircraft Corp., Missiles and Space Division, May 10, 1960. ½ in. thick. (Rept. SB-60-17)

This bibliography, in two parts, is comprised of 149 references, primarily to report literature. There are only a few abstracts.

43. Pressure vessels.

G. R. Evans. Sunnyvale, Calif., Lock-

heed Aircraft Division, June 24, 1960. 26p. (Rept. SB-60-24)

A search primarily for information on aluminum pressure vessels to be used as liquid rocket propellant tanks. 91 references, some of them annotated, are included.

44. A summary and bibliography of high-altitude rocket research between January 1953 and July 1958.
W. J. Heikkila. Ottawa, Canada, Defense Research Telecommunications Establishment, May 1960. 65p. (Rept. 1040) (AD-240 527)

A bibliography of 276 items, mostly with abstracts, is included as an appendix.

SCIENCE

45. Alternatives to the scientific periodical. a report and bibliography.
Ralph H. Phelps and John P. Herlin. UNESCO BULL. LIB. 14:61-75 Mar./Apr. 1960.

121 references are recorded. Owing to lack of space it was not possible to include the detailed annotations to each entry. However, the complete bibliography has been reproduced separately, and copies may be obtained from the Unesco Division of Libraries, Documentation and Archives, place de Fontenoy, Paris -7e, France.

46. Index of scientific publications 1955-1959.
Geneva, Switzerland, CERN, European Organization for Nuclear Research, 1960. 77p.

Publications are listed chronologically as well as by subject. There is also an author index.

47. Indian scientific and technical publications. A bibliography.
Compiled by the National Library, Calcutta. New Delhi, Council of Scientific and Industrial Research, 1960. 383p.

According to a review by T. W. Marton of the National Bureau of Standards, (Sci. 132:542, Aug. 26, 1960) there are 4800 entries, emphasis being on topics of materials, on handbooks and textbooks at the intermediate and college level.

SPACE SCIENCE

48. Advanced methods of propulsion.
Edda Barger. Pasadena, Calif., California Institute of Technology, Jet Propulsion Laboratory, Apr. 6, 1960. 40p. (Lit. Search 207) (Contract NASw-6) (AD-236 317)

Emphasis is on nuclear and electrical propulsion. There are 354 items, mostly annotated, representing books, reports, and periodicals.

49. Bio-astronautics: An ASTIA report bibliography.
Arlington, Va., Armed Services Technical Information Agency, Feb. 1960. 1 vl. (Suppl. to AD-211775) (AD-233 000) (PB 161 653 $1.25)

Previous bibliographies have covered the literature through 1958. This supplement brings the subject matter up to date through 1959 insofar as report literature, represented by ASTIA holdings is concerned. For earlier listings, see item 175, Winter 1959 issue.

50. Micrometeorites, high velocity impact studies, and problems of space travel relating to particle impact.
Edda Barber and Dorothy I. Sweitzer. Pasadena, Calif., California Institute of Technology, Jet Propulsion Laboratory, Oct. 15, 1959. 45p. (Lit. Search 143) (Contract NASw-6) (AD-231 586)

Information is reviewed concerning the existence of micrometeorites, interplanetary dust and other small particles in space and their possible influence on interplanetary flight. To facilitate the use of this search, the material is divided into the following sections: general material (including books) that would be of interest for background research; composition of meteorites; properties; meteorological effects; impact studies; particle acceleration; and travel problems. An author index is included.

51. A missile and space bibliography.
J. F. Sunderman. AIR FORCE 43:169-170, 172-173, 175-178, 181, Apr. 1960.

A list of recently published books on this subject subdivided under the following headings: rockets and missiles; astronautics; spaceflight; and earth satellites.

52. The optimization problem for rocket vehicles subjected to medium and high accelerations: A literature survey.
B. Bergqvist. ASTRONAUTIK. 1:101-117, 1959.

A bibliography of 133 references is included which, according to the author, "is fairly complete in what regards the purely technical factors determining the degree of optimality."

53. Photographic and television equipment and techniques adaptable to space flight.
Edda Barber. Pasadena, Calif., California Institute of Technology, Jet Propulsion Laboratory, Dec. 15, 1959. 83p. (Lit. Search 160) (Contract NASw-6) (AD-232 484)

The following topics are covered by the 731 annotated references: airborne photography; high-speed cameras; astronomical photography; television development; television scanning systems; television bandwidth control; and television cameras. Books, periodical articles, and research reports are included.

54. Recent advances in astrodynamics 1960.
ARS J. 30:1127-1140, Dec. 1960.

Includes 276 references.

55. Research studies related to mapping, geodesy, and position determination.
W. H. Ashley, Jr., E. D. Denman, et al. Kansas City, Mo., Midwest Research Institute, Dec. 1959. unpaged. (Interim Tech. Rept. 5) (Contract DA44-009-eng-3769) (AD-235 614)

A survey of the present state of knowledge about the effects of the ionosphere on satellite tracking includes 99 references.

56. Selected aerospace career and scholarship reference sources.
Willis C. Brown and Royce E. Brewster. Washington, D. C., U. S. Office of Education. 1960. 6p. (Circ. 569A)

Concerned with sources only, this publication is in five parts: I. Aviation career books; II. Military career pubblications; III. Career pamphlets, booklets, and leaflets; IV. Lists of schools offering certain aviation

courses; V. Scholarships, fellowships, and loan information sources.

57. A selected bibliography of books about jets, rockets, and space exploration (published after 1958).
Willis C. Brown. Washington, D. C., U. S. Office of Education, Nov. 1, 1960. 12p. (Aviation Educ. Ser. OE-33002-1)

Supplements the bibliography of the same title issued in 1958 and limited to the five-year period 1953-1958. There is no overlap in these two bibliographies. Short descriptive notes accompany each entry and the approximate interest level according to age is designated.

58. Space flight 1953-1957.
A. Feri and R. A. Smishkewych. New York, Bell Telephone Laboratories, Technical Information Libraries, Publication Department, Jan. 1959. 73p. (Bib. 30)

According to the introduction, this bibliography attempts to give a picture of the available literature on celestial mechanics as applied to the motion of space vehicles.

Arrangement is by division, as follows: surface-to-surface trajectories; satellite orbits; three-body problem; lunar missions, powered flight; re-entry and landing; transition orbits; n-body problem, interplanetary missions, composite orbits; technology and proposed experiments for satellites and space ships; navigation and communication; comprehensive discussions of space mission, proceedings of meetings, various topics from the dynamics of space vehicles and celestial mechanics; miscellaneous; popular renditions (predominately Russian).

59. Space technology. A partial search of the literature concerning the application of orbital space satellites to advanced weapons systems.
Alfred M. Anzalone. Dover, Del., Feltman Research and Engineering Laboratories, Picatinny Arsenal, Oct. 1959. 1 vl. (Lit. Search No. 9, pt. 1) (AD-231 822) (PB 149 150) (L. C. mi. $5.70, ph. $16.80)

Included is a Uniterm index covering subjects, contracts, projects, item designations and personal authors.

THERMOELECTRICITY

60. Annotated bibliography on thermoelectric materials and devices.
B. H. Nagel. Downey, Calif., Autonetics, Jan. 28, 1960. 225p. (Rept. EM-5987) (AD-242 768)

A total of 538 annotated references on the subject thermoelectricity, materials and devices, is provided. Included are items published in American and foreign literature, primarily from 1955-1959. The abstracts are arranged chronologically, followed by a subject and author index.

61. Bibliography on semiconductors for thermoelectric use.
E. H. Illsley and H. Kao. Washington, D. C., Department of the Interior, Bureau of Mines, 1959. 28p. (Info. Circ. 7910)

The 131 annotated references are grouped in the following categories: general references; Peltier effect; thermoelectric and thermal conductivity theory and related topics; experimental methods, materials and applications; and studies of tellurides and selenides.

62. Peltier effect and thermal-conductivity measurement techniques for thermoelectric materials.
K. D. Carroll. Sunnyvale, Calif., Lockheed Aircraft Corp., Missiles and Space Division, June 1959. 136p. (Rept. 288195) (AD-237 470) (PB 148 068) Order from LC mi. $6.90 ph $21.30)

This annotated bibliography of 450 refereneces covers the period 1950-1958. The literature of particular interest is that of the Peltier, Seebeck and Joule-Thompson effects as well as certain studies of thermal conductivity. The tellurides, in particular lead telluride, was the only thermoelectric material designated as being of primary interest. There was, therefore, no attempt to cover the rapidly expanding field of thermoelectric materials.

63. The physical principles of thermoelectric cooling and progress in the development of suitable material.
E. Justi. KALTETECHNIK 12:126-136, 1960.

A review with 41 references.

TUNGSTEN

64. Milling and processing tungsten.
J. B. Zadra. Washington, D. C., Department of the Interior, Bureau of Mines, 1959. 122p.

For sale, GPO. Includes bibliography.

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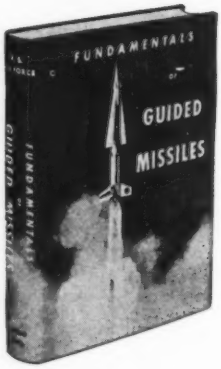

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DOCUMENTATION DIGEST

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ABSTRACTING AND INDEXING

1. Biological Abstracts tools up for the future.
G. Miles Conrad. AIBS BULL. 10 (5): 25-27 Oct. 1960.

The director of Biological Abstracts discusses the new facilities available and plans for the future. —MM

2. Comparative efficiency of indexing systems.
NATURE 188 (4747):276 Oct. 22, 1960.

An outline of the project and the first preliminary report of a study into the comparative efficiency of indexing systems by C. W. Cleverdon. The work was sponsored by a grant to the Association of Special Libraries and Information Bureaux by the National Science Foundation. The reports indexed were in the field of aeronautical engineering. —RJH

3. Correlative indexes VI: serendipity, suggestiveness, and display.
C. L. Bernier. AM. DOCUMENT. 11 (4): 277-287 Oct. 1960.

Discusses need for improved displays of terms to lead literature searcher to new information when doing a comperhensive search. —MEM

4. Correlative indexing systems for control of research records.
Gerald Jahoda. DLS Thesis, Columbia U., 1960: thru DISSERTATION ABSTR. 21(4): 910 Oct. 1960.

Existing Correlative index installations were studied. —BC

5. Direct dictation of indexes.
L. E. C. Hughes. THE INDEXER 2(2): 53 Autumn 1960.

Indexing can be speeded up by dictation directly to a typist. —RJT

6. Indexing a classification scheme.
J. Mills. THE INDEXER 2(2): 40-48 Autumn 1960.

Describes the advantages of "chain indexing" when indexing the subjects in a classification scheme. —RJT

7. Inquisitor and index.
S. I. Wicklen. THE INDEXER 2(2):60-61 Autumn 1960.

Brief history of the Roman index; possibility of the indexer acting as a censor. —RJT

8. Keyword-in-context index for technical literature.
H. P. Luhn. AM DOCUMENT. 11(4): 288-295 Oct. 1960.

Proposes indexes giving keywords in their context as suitable for disseminating new information. Because these can be entirely machine-generated, they can be kept up-to-date with current literature. —MEM

9. Lack of indexes in reports of conferences: report of an investigation.
C. W. Hanson and M. Janes. THE INDEXER 2(2): 56-59 Autumn 1960.

A statistical analysis of 205 reference proceedings published from 1956 through 1959; concludes that these proceedings would be considerably more useful with the addition of suitable indexes. (Reprinted from J. Document., 16:65-70 June 1960). —RJT

10. Letter to the editor.
T. R. Henley. THE INDEXER 2(2): 69 Autumn 1960.

Brief description of the techniques used in preparing subject indexes for NUCLEAR SCIENCE ABSTRACTS. —RJT

11. Some recent references on indexing.
THE INDEXER 2(2): 75 Autumn 1960.

A bibliography of 11 citations. —RJT

12. Standards for indexes to learned and scientific periodicals.
THE INDEXER 2(2): 63-64 Autumn 1960.

Standards approved by the council of the Society of Indexers. —RJT

13. The best indexing.
H. R. Shipherd. THE INDEXER 2(2): 62 Autumn 1960.

Suggestions for clarifying indexes. —RJT

14. Value of titles for indexing purposes.
R. E. Maizell. REV. DOCUMENT. (THE HAGUE 27(3:126-127 Aug. 1960.

A preliminary study leads to the conclusion that titles are closely related to index entries, but are only 50-70 per cent complete from the point-of-view of the indexer. —RLS

BOOK TRADE

15. Bookselling among the sciences.
J. Zeitlin. COLL. & RES. LIB. 21(6): 453-457 Nov. 1960.

Presented at the ACRL's Rare Book Section, Montreal, June 20, 1960. Some definitive bibliographies and histories are cited. Role of antiquarian bookseller is envisioned as that of "collaborator" as well as "vendor" in guiding the intelligent collector, librarian and scholar. —DBS

16. Periodical sets and the world market, or, life in a rubber-boot factory.
Harold J. Mason. LIB. RESOURCES & TECH. SERV. 4(4): 295-302 Fall 1960.

A former librarian discusses the problems faced by the periodicals dealers. —MT

CATALOGING AND CLASSIFICATION

17. A new look at the cataloging of microfilm.
Duncan Brockway. LIB. RESOURCES

& TECH. SERV. 4(4): 323-330 Winter 1960.

The microfilm should be cataloged essentially as a work in a new edition. —MT

18. **Cataloging and classification.**
M. F. Tauber. New Brunswick, N. J., Rutgers Univ. Graduate School of Library Service, 1960. 271 p. (The state of the library art, vol. 1, pt. 1).

Reviewed by D. C. Weber in Coll. & Res. Lib. 21(6): 497-499 Nov. 1960. —DBS

19. **Cataloging-in-source—A symposium.**
LIB. RESOURCES & TECH. SERV. 4(4):269-284 Fall 1960.

"Cataloging-in-Source Experiment: a Report of the Librarian of Congress, 1960", is reviewed by representatives of school, small and large public, university, and state libraries. —MT

20. **Cataloging-in-source experiment; a report to the Librarian of Congress by the Director of the Processing Department.**
Washington, Library of Congress, 1960. 199 p.

Reviewed by K. W. Soderland in Coll. & Res. Lib. 21(6): 493-494 Nov. 1960. —DBS

21. **Comparison of the Dewey and Universal Decimal Classification at a minimum 3-figure level.**
G. A. Loyd. REV. DOCUMENT. (THE HAGUE) 27(2): 45-80 May 1960. —RLS

22. **Documentation in occupational safety and health.**
D. J. Foskett. REV. DOCUMENT. (THE HAGUE) 27 (3):102-107 Aug. 1960.

Description of the faceted classification scheme used at the International Documentation Centre on Safety (C. I. S.). —RLS

23. **Making a catalog department manual: a case history.**
Robert B. Slocum. LIB. RESOURCES & TECH. SERV. 4(4): 314-318 Winter 1960.

The production of a manual for the cataloging department of a large university library is described. —MT

24. **Project India.**
Anne Greenwood. LIB. RESOURCES & TECH. SERV. 4(4): 318-322 Winter 1960.

Experience of replacing four trays of cards lost from the public catalog in the UCLA library. —MT

25. **Shell Oil's picture library stores prints by the numbers.**
INDUSTRIAL PHOT. 9(12): 63-64 Dec. 1960.

Describes photofiling system used by public relations department of Shell Oil Co. —MEM

26. **Speaking of pictures.**
PHOTO METHODS FOR INDUSTRY 3(10): 66-67 Oct. 1960.

Describes system used to classify and file photographs in the Picture Library of Time-Life, Inc. —MEM

27. **Subject headings.**
C. J. Frarey. New Brunswick. N. J., Rutgers Univ. Graduate School of Li-

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brary Service, 1960. 92 p. (The state of the library art, vol. 1, pt. 2).
Reviewed by D. C. Weber in Coll. & Res. Lib. 21(6): 497-499 Nov. 1960. —DBS

COOPERATION BETWEEN LIBRARIES

28. The program of the joint committee on the Union List of Serials.
F. Bernice Field. LIB. RESOURCES & TECH. SERV. 4(4): 307-308 Fall 1960.
Report of progress on the third edition of the Union List of Serials and the New Serial Titles. —MT

29. Translation center proposed by OEED.
CHEM. ENG. NEWS 38(46):74 Nov. 14, 1960.
An international center for translations from East European countries, to be housed at the technical library of the University of Delft, Netherlands, has been recommended by representatives of 12 European countries, the US, and Canada, in the Organization for European Economic Cooperation. —AMC

DOCUMENTARY REPRODUCTION

30. A facsimile device capable of printing a square foot of information per second.
CHEM. ENG. NEWS 38(47):43 Nov. 21, 1960.
Hogan Facsimile Div. of TELautograph Corp. announces a "remote document retriever", which transmits information between two distant points and reproduces the scanned material on electronic recording paper, using a flat-bed continuous multiple-stylus recorder. The Bureau of Ships has installed the prototype. —AMC

31. An engineering problem.
IND. PHOT. 9(11): 90-91 Nov. 1960.
Describes microfilm aperture card system used by Ford, Bacon and Davis for filing engineering drawings. —MEM

32. Check your negs for clarity.
H. R. Verry. IND. PHOT. 9(10): 90-91 Oct. 1960.
Describes conditions of equipment necessary for good microcopies. —MEM

33. Chiang small duplicator.
Andre Nitecki. LIB. RESOURCES & TECH. SERV. 4(4): 291-294 Fall 1960.
A small, inexpensive, and easily operated card duplicator is described, including cost data compared with other methods of reproduction. —MT

34. "Hot" film bids for office jobs.
BUSINESS WEEK, No. 1632: 107-09 Dec. 10, 1960.
A new film developed by Kalvar Corp. takes a picture with light, but is developed by heat. It does not work well in a camera at present, but is successful in copying microfilm. The possibilities are intriguing. —AVN

35. La Microcopie. Regards vers le passe et perspectives d'avenir, a propos d'un centenaire.
Paul Poindron. REV. DOCUMENT. (THE HAGUE) 27(3):119-122 Aug. 1960.
A historical survey of microcopy, including some curdent developments. —RLS

36. Microfilm system keeps up with space program needs.
STEEL 147(17):102-3 Oct. 24, 1960.
Army missile agency can store 100,000 drawings in only 4 sq. ft. of floor space. It has also been able to reduce clerical filing personnel by more than 40 per cent. —MM

37. Microfilm topics.
Hubbard W. Ballou. DATA PROCESSING AND MICROFILMING SYSTEMS 1(2): 12 Oct. 1960.
Discussion of new variations on the use of sheet microfilm, which is having a rebirth. —AVN

38. Microtext in the form of opaque cards and transparent microfilm—review of progress 1959.
G. H. Davison. Moorgate, Rotherham, Yorkshire, Eng., Swinden Laboratories, The United Steel Companies, Ltd., 1960. 82 p. On request.
Annotation in Coll. & Res. Lib. 21(6):496 Nov. 1960. —DBS

39. Microtexts as media for publication: the papers and discussion of a symposium held at Hatfield Technical College on the 10th November 1959.
Hatfield, Herts., Eng., Hertfordshire County Council, 1960. 87 p. 9s. Reviewed in Coll. & Res. Lib. 21(6): 495-496 Nov. 1960.
Papers were presented on "Microfilm — the versatile academic tool," by E. Powers; "Publishing on microfiche," by L. J. van der Wolk; and "Microcard," by C. D. Gelatt. —DBS

40. Photocopy directory.
DATA PROCESSING AND MICROFILMING SYSTEMS 1(2):30 Oct. 1960.
A two-page chart giving the characteristics and costs of the various "do-it-yourself" copying devices now on the market. —AVN

41. Production of micro-forms.
R. Hawkins. New Brunswick, N. J., Rutgers Univ. Press, 1960. 208p $5.
Reviewed in Coll. & Res. Lib. 21(6): 494-495 Nov. 1960. —DBS

42. Quick copies 3½c each.
PHOTO METHODS FOR INDUSTRY 3(11 Pt. 2): 38-39 Nov. 1960.
Describes equipment (camera plus diazo machine) used by IBM Poughkeepsie to produce quick low-cost pictures for reports. —MEM

43. Reading devices for micro-images.
J. Stewart and others. New Brunswick, N. J., Rutgers Univ. Press, 1960. 205p. only V.5, pt. 2)
(The state of the library art, R. R. Shaw, editor, vol. 5, pt. 1).
Reviewed in Coll. & Res. Lib. 21(6): 494-495 Nov. 1960. —DBS

44. The literature of document reproduction.
A. B. Veanor. Urbana, Ill., University of Illinois Library School, in "The literature of library technical services" (Univ. of Illinois Library School Occasional Papers, No. 58), pp. 25-37, 1960. On request.
Annotation in Coll. & Res. Lib. 21(6): 496 Nov. 1960. —DBS

45. The tech report: a juggling act with celerity, economy, quality.
R. E. Goode and J. B. Cooper. PHOTO METHODS FOR INDUSTRY 3(11 Pt. 2): 10-11 Nov. 1960.
Discusses some of the requirements in the reproduction department to produce a professional looking report. —MEM

46. You can now tune in on microfilm.
PROD. ENG. 31(44):16 Oct. 24, 1960.
Description of a system developed by Nord Photocopy and Electronics Corp., called Microfilm Video Transmission. The system permits long distance instantaneous viewing of microfilm material on a high resolution TV screen. —RJH

47. World's fastest microwave facsimile reported.
PROD. ENG. 31(49):13 Nov. 28, 1960.
Report of new "document retriever," unveiled by the Navy's Bureau of Ships. The instrument, developed by Hogan Faximile Div. of Telautograph Corp., combines a microfilm rapid selector with a scanning and receiving unit. It can transmit 4320 sq. in. of copy per minute with a resolution of 100 lines per inch. —RJH

DOCUMENTATION-GENERAL

48. Chemical documentation.
NATURE 188(4748):375-76 Oct. 29, 1960.
A comparison of **Current Chemical Papers** with the new ACS publication **Chemical Titles.** —RJH

49. Cost of scientific periodical publication.
NATURE 188(4755):1052 Dec. 17, 1960.
Further comments by M. W. Perrin of the Chemical Society and D. B. Baker of the Chemical Abstracts Service on the articles appearing in recent issues of NATURE 186: 124 (1960) and NATURE 187: 1502 (1960). —RJH

50. Documentation, indexing and retrieval of scientific information.
U. S. Senate. Washington, D. C., Committee on Government Operations, G.P.O., 1960. 283p. $.70. (Document No. 113).
Representatives of Federal agencies and authorities outside the Government gave informative testimony on the present status of systems and equipment and on information programs being developed and perfected. —RLS

51. Librarianship and documentation.
M. Verhoef. UNESCO BULL. LIB. 14 (5):193-6,204 Sept.-Oct. 1960.
A documentalist's view of the difference between a librarian and a documentalist based on the FID definition of documentation as consisting of three main functions: to collect, to order and to disseminate. —DTH

52. Microfilm housed in plush cavern.
IND. PHOT. 9(10): 49 Oct. 1960.
Describes records retention center operated by National Storage Co. in worked-out mine where space is rented to many corporations. —MEM

53. New journal for a growing field.
Richard H. Belknap. CHEM. ENG. NEWS 38(44): 86 Oct. 31, 1960.
The first two issues of the new Am. Chem. Soc. Journal of Chemical Documentation are slated for appearance in 1961. The new journal is to present information in the fields of nomenclature, communication, foreign languages and translating, abstracting and indexing, patents, information services, forensic chemistry, classification, searching, retrieval, notation systems, new tools and equipment for literature work, and the use of mechanical and electronic machines in documentation. —AMC

54. Skolnik heads new ASC journal.
CHEM. NEWS 38(42):111 Oct. 17, 1960.
Dr. Herman Skolnik, editor of the new Am. Chem. Soc. Journal of Chemical Documentation, is manager of the technical information div. of Herculese Powder Co., is chairman of the ACS Div. of Chem. Lit., and is currently writing a book, "Nonaromatic Heterocyclic Compounds with S and S and O." He has published extensively in the fields of chemistry and chemical documentation. —AMC

55. The chemical literature problem.
H. Skolnik. HERCULES CHEMIST, No. 39: 18-20 June 1960.
Another history of the expansion of a scientific literature with some typical examples of the growth. —RLS

56. When was that patent issued?
PROD. ENG. 31(50):87 Dec. 5, 1960.
A table giving a close approximation of issuance dates of U. S. Patents from No. 1, July 13, 1836 to 2,950,000, August 23, 1960. —RJH

DOCUMENTATION RESEARCH

57. Aslib research programme.
C. W. Hanson. ASLIB PROC. 12(10): 342-347 Oct. 1960.
Proposed areas of research are listed. To date, investigation of interlibrary borrowing, translations and indexing studies have been undertaken. —MT

INFORMATION STORAGE & RETRIEVAL

58. Burroughs Corp. has developed an algebraic compiler.
CHEM. ENG. NEWS 38(43):39 Oct. 24, 1960.
A new compiler permits using the new international algorithmic language (ALGOL) in the Burroughs 220 electronic computers. The compiler automatically translates ALGOL into the numerical "machine language", and cuts the 220's programming time by as much as 80%. ALGOL is akin to algebra, making it relatively easy to learn. —AMC

59. Commercial units are now part of the electronic literature searching service of the American Society of Metals.
CHEM. ENG. NEWS 38(45):51 Nov. 7, 1960.
Managing Director A. R. Putnam of the ASM announces that the experimental selector designed and built at Western Reserve University has been replaced by a GE-225 computer programmed to handle the needs of ASM-WRU data processing system. A tailored information system using the GE-225 is being designed by GE. —AMC

60. Emerging solutions for mechanizing the storage and retrieval of information.
M. Tauber, compiler. Washington, D. C., Documentation, Inc., 1959. (Studies in coordinate indexing, vol. 5).
Reviewed by F. B. Rogers under title, "Storing and retrieving information" in Coll. Res. Lib. 21(6): 489-492 Nov. 1960. —DBS

61. Experience with indexing and retrieving by UDC and uniterms.
J. A. Schuller. ASLIB PROC. 12(11): 372-389 Nov. 1960.

The Netherlands Armed Services Technical Documentation and Information Centre is under the jurisdiction of the Minister of Defense. Documents are indexed by both the UDC and Uniterm systems. A comparison of retrieval of information for 100 inquiries gave a very slight edge to the Uniterm system; however, both systems produced documents missed by the other. —MT

62. Facts and figures everywhere — but how can you find what you need when you need it?
G. Weyermuller. CHEM. PROCESSING 23(12):29-31 Dec. 1960.

As the volume of business and technical reports, correspondence and publications climb, companies are trying new schemes of information retrieval. Goal: efficient, economical methods of keeping executives and scientists informed of developments bearing on all aspects of company's business. —MM

63. Information retrieval research in the U. S. Patent Office.
Simon M. Newman. J. PATENT OFFICE SOC. 42(11): 731-741 Nov. 1960.

A status report is given the problems of retrieval and the research program of the Patent Office on retrieval systems. A tentative conclusion was drawn that more basic studies are necessary for the resolution of retrieval problems in the patent area. The course of future research will be determined by "available funds, time limitation and staff capabilities." —BC

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64. Information retrieval: what will it do for the chemical engineer?
J. W. Perry. CHEM. ENG. 67(26):88-98 Dec. 26, 1960.

The booming technology of the 20th century has produced a geometrically increasing avalanche of scientific literature. To keep abreast, we must develop new, imaginative methods of classifying and indexing this information and then retrieving it from storage. The new information-retrieval techniques will be cooperative ventures of men and machines. In a given field, information retrieval must be integrated with professional activity in that field. For the CPI, this means close coordination with research and development, with production and sales planning, and with management and decisions. —MM

65. Information searching.
METAL PROGR. 78(6): 168-172 Dec. 1960.

This is a digest of a paper presented by Marjorie R. Hyslop describing the operation of the American Society for Metals information service. Detailed information on the results of five specific searches is given with a comparison of machine results as against the same search in various abstract service publications. Approximately ten times as much information was found by machine searching than was found by abstract scanning and the material was found sooner than possible using traditional methods. —REB

66. Information storage and retrieval — dogs, cats and indexing.
A. F. Glimn and R. D. Greenway. ELEC. ENG. (79(9): 724-728 Sept. 1960.

A description is given of an advanced co-ordinate indexing system utilizing a high-speed digital computer and a very large semi-random access, on-line storage. The system was designed to: (1) place no restrictions on indexing vocabulary; (2) permit fineness of detail in indexing; (3) provide hierarchial information in addition to basic information in the document; and (4) make possible the singling out of specific ideas within a document.

Each term in the system may consist of a keyword (the normal coordinate inden term), a prefix indicating class, a role code, and a "descriptor link" indicating syntactical relationships. Coordination of terms may occur at several levels and four output options are possible. —REB

67. Jonker's approach to information retrieval.
MANAGEMENT AND BUSINESS AUTOMATION 4(5): 18-23, 25 Nov. 1960.

An interview with F. Jonker, the inventor of the "Termatrex" system, a punched card method of storing and retrieving information. —RJT

68. Machine retrieval of pharmacological data.
E. V. Dietrich. SCIENCE 132 (3429): 1556-7 Nov. 25, 1960.

With data retrieval becoming a problem of increasing magnitude, the author feels that punched cards, with machine sorting, should serve as a research tool in making possible correlation of research far beyond that achieved by any amount of searching by hand. This report describes McNeil Laboratories experiences in the coding and recording on I.B.M. cards of a multiparameter screen. —MM

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69. Novel indexing device solves technical filing problems.
R. E. Wendt, Jr. PROD. ENG. 32(3):48-49 Jan. 16, 1961.

Instructions are given for building a desk top version of a Peek-a-boo information retrieval system. Unit has capacity of 1,000 documents and uses 3 x 5 cards and a file box adapted with a jib. The jig has a 25 x 40 matrix. —RJH

70. Qualitative approach to scientific information problems.
G. S. Simpson, Jr. and J. W. Murdock. BATTELLE TECHNICAL REVIEW 9(11):3-7 Nov. 1960.

Experience has convinced the authors that the quantitative approach to scientific problems can be highly effective. They discuss the elements essential to that approach and explain why it promises solution to many of the problems facing information centers today.—MM

71. Research on handling scientific information.
Helen L. Brownson. SCIENCE 132, 1922-31 Dec. 30, 1960.

Current work in documentation storage and retrieval is described in detail. The research is conducted in

government agencies and in industrial and academic laboratories. Among other items, the article includes reports on mechanical translation, mechanized systems, development of equipment, automatic analysis of texts and evaluation of information-handling systems. —VM

72. Searching natural language text by computer.
Don R. Swanson. SCIENCE 132, 1099-1104 Oct. 21, 1960.

Automatic indexing permits text searching. An experiment of information retrieval and judgment of relevance was run on 100 articles on nuclear physics by the use of a computer. Three methods of retrievals were tested: (1) conventional, by subject heading index, (2) retrieval based on specifications of words and phrases, and (3) same as for 2 but with the aid of a thesaurus-like word and phrase group list. The last was found to be the most successful, but all three techniques were of low effectiveness. —VM

73. Stanford finds ALGOL advantages.
CHEM. ENG. NEWS 38(46):54 Nov. 14, 1960.

Dr. John G. Herriot, director of the computation center at Stanford University, described at the 1960 Computed Applications Symposium in Chicago, the use of new compilers for the Burroughs 220 and the Bendix G-15 and G-20. These new compilers use algorithmic language. The original ALGOL was formulated in Switzerland in 1958 by an international group of logicians, mathematicians, and computer specialists. —AMC

74. Symbolic logic in language engineering.
H. M. Semarne. WESTERN JOINT COMPUTER CONF. PROC., 1960, p. 61-71. (Calif., Institute of Radio Engineers).

Symbolic logic truth-matrix computer techniques and other logic methods make possible the construction of decision-devices useful in the classification, correlation, and selection of documents, as well as in machine translation of languages. —RJT

75. The engineering document, and why it resists mechanization efforts.
A. D. Even. PHOTO METHODS FOR INDUSTRY 3(11 Pt. 2): 14, 16 Nov. 1960.

Discusses reasons why mechanization of handling of engineering data has lagged behind that of other departments. —MEM

76. The fact compiler: a system for the extraction, storage, and retrieval of information.
C. Kellogg. WESTERN JOINT COMPUTER CONF. PROC., 1960, p. 73-82. (Calif., Institute of Radio Engineers).

A description of the Fact Compiler, a system for the timely extraction of significant information in an organized manner that permits rapid retrieval. —RJT

77. The Termatrex inverted "punched card" systems.
F. Jonker. AM. DOCUMENT. 11(4): 305-316 Oct. 1960.

Description of Termatrex systems, variant of the Peek-a-Boo technique with mechanical refinements. —MEM

LIBRARY ADMINISTRATION

78. Libraries and library service in Britain.
NATURE 188(4752):693-95 Nov. 26, 1960.

Critical review of the slow progress that is being made toward a satisfactory national library system in Great Britain. —RJH

79. Storage and deposit libraries.
J. Orne. COLL. & RES. LIB. 21(6): 446-452 Nov. 1960.

This discussion is limited to "the philosophical or rational and, to a certain degree, the physical aspects of storage and deposit libraries." Acquisition policies and and programs are also considered since they in great measure determine the need for extending storage areas. —DBS

80. The dogma of book selection in university libraries.
L. S. Thompson. COLL. & RES. LIB. 21(6):441-446 Nov. 1960.

Librarian is advised to "confine his selecting to policy-

A·T·S TRANSLATIONS AND LITERATURE RESEARCH

Chemistry, Physics, Electronics, Engineering, Bio-Sciences, etc.

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Avoid Research Duplications With A·T·S Translations

making" and in conference with colleagues and the teaching staff decide where and when to attempt mass collecting. Dogma of selection by individual title has yielded no significant results; major acquisition policy should be concerned with whole fields. —DBS

LIBRARY EDUCATION & TRAINING

81. Library instruction to 2000 freshmen.
V. V. Melum. COLL. & RES. LIB. 21 (6): 462-468 Nov. 1960.

Details of a program developed at Swen Franklin Parson Library at Northern Illinois University. Author believes instruction can best be given by librarians. —DBS

82. Moglichkeiten der ausbildung im betrielichen informationswesen in Deutschland.
Otto Frank. REV. DOCUMENT. (THE HAGUE) 27(2): 41-44 May 1960.

Description of courses for training of documentalists. —RLS

83. The happy medium in library instruction at the college level.
A. M. Altson. COLL. & RES. LIB. 21 (6): 469-470 Nov. 1960.

Plan is described for three one-hour instruction courses extending over four undergraduate years, progressing from the orientation stage to general reference books and finally to specialized tools in the student's major field. —DBS

84. Wanted: more research.
E. M. Fair. COLL. & RES. LIB. 21(6): 471-475 Nov. 1960.

Areas of research in library science are described for the prospective doctoral student. —DBS

SPECIAL LIBRARIES & INFORMATION SERVICES

85. Canadian Chemical Periodical Literature.
J. E. Brown. J. Chem. Ed. 37 (12):645-647, Dec. 1960.

Canadian technical literature, and especially the number of Canadian journals in the field of chemistry have been expanding since WW II. The history of this development is gone into briefly and 42 periodicals, indexes and bibliographies, their publishers and prices are listed. —MCP

86. A new library for a new college.
K. T. Slack. COLL. & RES. LIB. 21(6): 458-461 Nov. 1960.

Library of the Church College of Hawaii. Description includes construction data. —DBS

87. Information and industry.
D. J. Foskett. PROGRESS (Unilever) 47(265): 233-236 Spring 1960.

The role and significance of the industrial library in Great Britain is concisely described. —BC

88. Metcut provides machining data. New service establishes a central information service.
R. H. Eshelman. IRON AGE 187(2): 49 Jan. 12, 1961.

A metals research company is expanding its services to provide a central source for data. Particularly helpful will be machining characteristics of the new space-age materials. —MM

89. National Lending Library for Science and Technology.
CHEM. & IND. (LONDON) 1960 (40): 1252 Oct. 1.

This new British library at Boston Spa, Yorkshire will cover 60 acres and be one of the largest library sites in the world. Some industrial buildings are being adapted to provide for the initial phase of the library's existence. There will be space for 500 readers to use the library at one time, for 500 or more cars to be parked, and for a helicopter landing site. —HO

90. Survey of information/library units in industrial and commercial organizations.
C. W. Hanson ASLIB PROC. 12(11): 391-396 Nov. 1960.

A summary of the interview survey undertaken by Aslib during the years 1956-58 of a representative sample of libraries in the United Kingdom to study personnel, holdings, classification, and services. —MT
Tabulation of questionnaire survey answered by members of the Aslib Aeronautical group. Comparisons with previous surveys are made. —MT

91. Survey of library provision in the aircraft and guided weapon industry.
T. M. Aitchison. ASLIB PROC. 12(11): 397-406 Nov. 1960.

Tabulation of questionnaire survey answered by members of the Aslib Aeronautical group. Comparisons with previous surveys are made. —MT

92. System of scientific and technical information services: long range planning.
Vladas Asmonas. REV. DOCUMENT. (THE HAGUE) 27(2):81-85 May 1960.

Recommendations for the organization and services of international, regional and special information centers for the classification and communication of information. —RLS

93. The dissemination of scientific and technical information by the International Atomic Energy Agency.
J. E. Cummins. REV. DOCUMENT. (THE HAGUE) 27(3):97-101 Aug. 1960.

A description of the services and publications of the agency. —RLS

94. The Hungarian State Technical Library.
E. Beyerly. AM. DOCUMENT. 11(4): 296-304 Oct. 1960.

Description of documentation activities in Hungary with particular emphasis upon the work of the Hungarian State Technical Library. —MEM

95. The intelligence service for acquatic sciences and fisheries provided by the Food and Agriculture Organization of the U. N.
S. J. Holt. REV. DOCUMENT (THE HAGUE) 27(3):108-118 Aug. 1960.

96. The library in science and technology.
NATURE 188(4748):373-375 Oct. 29, 1960.

A review of some of the papers presented at the annual conference of the Library Association at Scarborough, England, Sept. 12-16, 1960. Papers on the planning of the National Lending Library for Science and Technology, librarianship in English universities, libraries in the Soviet Union, cooperative schemes set up in some cities and an assessment of the present

structure and likely trends of technical information services are reviewed. —RJH

TECHNICAL PROCESSES

97. Automatic catalog card processing.
de Lafayette Reid. PIONEER 23(2):4-5 Mar.-Apr. 1960.

A pilot operation by the Illinois State Library uses an electronic **Synchro-Tape** typewriter with fully automatic feed of card stock for automated preparation of catalog cards. —RLS

98. Continuous conveyor processing.
J. R. Hunt. ALA BULL. 54(9):764-768 Oct. 1960.

Details the use of a continuous conveyor belt to expedite book processing at the Wayne County Library. —RLS

99. Documents at the Air Force Cambridge Research Center Technical Library.
Mary D. Quint. LIB. RESOURCES & TECH. SERV. 4(4): 309-311 Winter 1960.

Documents (technical reports) are handled in a separate catalog from the main library catalog. Processing techniques and reference tools are discussed. —MT

100. Use of punched cards in preparation of lists of periodicals.
L. J. Anthony and J. E. Hailstone. ASLIB PROC. 12(10): 348-60. Oct. 1960.

Punched card periodical lists at UK, AERE, Harwell, provide versatility and up-to-date holdings information. —MT

TECHNICAL WRITING AND EDITING

101. Effective technical reporting.
PETROL. REFINER (39(2):109-128 Dec. 1960.

Four comprehensive articles, by K. O'Keeffe, J. A. Walter, C. H. Vervalin, and R. Atwood, tell everything needed on how to prepare a forceful, clear, well organized technical report — whether it be written or oral. —MM

102. Photographs for Technical Reports.
F. O. Slate. J. Chem. Ed. 37 (12): 648-650, Dec. 1960.

Good and bad techniques in the use of photographs to illustrate written or oral reports are discussed and the publishers requirements in photographs submitted for printing are noted. —MCP

103. Writing the technical article: a matter of design.
Gerald A. Pottebaum. NOTS TP-2432 (PB 150,169) order from LC mi $2.40, ph $3.30; thru U. S. GOV. RESEACH REPTS. 34(6): 799 Dec. 1960.

Article discusses some fundamental practices that apply in fiction and exposition. —BC

TRANSLATION

104. Abbreviations in Russian Chemical Literature.
J. F. Smith. J. Chem. Ed. 38 (1), 41-42 (1961).

Russian abbreviations are used with less regard for standard practice than ours: Both Cyrillic and Roman alphabets appear. The author briefly explains the thinking leading to the formation of their abbreviations and cites examples. A note suggests that interested readers apply to the author for a copy of the list of abbreviations from which the paper was prepared. —MCP

105. Recognition of sloppy, hand-printed characters.
W. Doyle. WESTERN JOINT COMPUTER CONF. PROC., 1960, p. 133-142. (Calif., Institute of Radio Engineers).

Describes a pattern recognition scheme for noisy and distorted data; describes types of letters used as data, methods of processing, and results obtained. —RJT

106. Redundancy exploitation in the computer solution of double-crostics.
E. S. Spiegelthal. EASTERN JOINT COMPUTER CONF. PROC., 1960, p. 39-56. (N. Y., Institute of Radio Engineers).

Compares a computer solution to Double Crostics game to a computer method of natural language translation. —RJT

107. The outlook for machine translation.
F. L. Alt. WESTERN JOINT COMPUTER CONF. PROC., 1960, p. 203-208. (Calif., Institute of Radio Engineers).

Review of the progress made to date, including a survey of 15 separate projects; crude estimates of economic and machine time requirements. —RJT

USE OF INFORMATION

108. A theory of communications in a research laboratory.
J. Hillier. RESEARCH MANAGEMENT 3(4):255-270 Winter 1960.

Discussed under topics: communications systems; communications environment in the laboratory; creativity and communications. Suggestions whereby research manager can cooperate with scientist to raise probability of creativity and therefore productivity of his laboratory given. —DBS

109. How a communications group can help you.
J. W. Hunton and R. W. Slade. PROD. ENG. 31(48): 90-92 Nov. 21, 1960.

Suggestions for organization and ways in which a Communications Group can help an engineering establishment. The main objective of such a group should be to smooth the flow of technical information. —RJH

110. Management policy of the Philips Research Laboratory.
H. Bienfait. RESEARCH MANAGEMENT 3(4): 201-215 Winter 1960.

Of interest are selections on (1) internal laboratory communication and information, (2) research environment. Freedom of approach and freedom from project budgeting and development needs are essential in effective execution of fundamental research. —DBS

111. Survey of information/library units in dustrial and commercial organizations.
NATURE 188(4744):21-22 Oct. 1, 1960.

Interesting results of a survey of information/library services in 52 British industrial and business organizations. The number of people served, average floor space, periodical policies, etc., are some of the valuable information included. The original report was published by ASLIB. —RJH

(See also No. 90)

THE MAIL BAG

DISSERTATION ABSTRACTS

The following letter was received and printed as a pre-publication response to G. E. Randall's article on Dissertation Abstracts. STEVENS RICE, UNIVERSITY MICROFILMS

Thank you very much for sending us your letter of October 27, as well as the proposed article which was included with it. Naturally, we are glad that you find **Dissertation Abstracts** helpful to you in your library, even though you feel that better indexing would be desirable. We especially welcome comment and criticism about any of our publications because this is the only way we know whether we are accomplishing what we set out to do and how to make any changes necessary.

There has been a good deal of discussion back and forth internally about the kind of indexing we should use in **Dissertation Abstracts**. On the one hand, we are told that citations are almost entirely by author and therefore an author index is sufficient. This seems to be the predominant view among librarians with whom we have discussed the matter. On the other hand, we know that many research libraries would like the index arranged by subject. We have compromised within the limitations of our budget by having each issue arranged by subject for ready reference and a complete author index at the end of each volume.

You will find the author index for Volume 20 at the end of issue No. 12, pages 4767 through 4888. This is, of course, simply an index by author to **Dissertation Abstracts** and does not cover all dissertations accepted by American universities during the volume year. Last year University Microfilms published more than 6800 dissertations.

In order that librarians might have a complete index to American doctoral dissertations, we publish separately (but sometimes combined with a subscription to **Dissertation Abstracts**) the **Index to American Doctoral Dissertations.**

This work contains no abstracts and does not purport to index by page number those dissertations found in **Dissertation Abstracts.** However, the dissertations are classified by subject specialties and institutions, and at the end there is a complete author index.

Graduate schools report degrees granted to doctoral candidates by sending us their commencement programs in July or August. Reports are thus available rather soon after degrees are granted. However, we often do not receive dissertations for weeks, sometimes months, and even years after the degree has formally been granted. For this reason it would be impossible for us to list abstracts in **Dissertation Abstracts** as soon as we get out the **Index to American Doctoral Dissertations.** And thus it is impossible to combine the two indexes unless one waits until all of the dissertations have been submitted to us for filming. Such a wait would delay the publication of the index for at least a year and this would be an intolerable delay, in our opinion.

Indexing is expensive, and as you can well imagine, we lost money on subscriptions to **Dissertation Abstracts** and on subscriptions to the **Index to American Doctoral Dissertations.** In both cases the subscriptions do not pay the out-of-pocket costs for printing. What this means is that we are subsidized by the authors whose dissertations appear on microfilm, as far as **Dissertation Abstracts** is concerned. We have no subsidy whatever for the **Index to American Doctoral Dissertations.** We continue to publish it since it would seem to be a logical companion colume to **Dissertation Abstracts.** The index to **Dissertation Abstracts** should not be confused with the **Index to American Doctoral Dissertations.**

We have had plans for some time to have a cumulative index to dissertations we have published because we feel this would make **Dissertation Abstracts** much more valuable. It is very expensive, and so far that is what has stopped us from making an index. We have the method for making it and we have the necessary cards in the correct order, but we lack sufficient funds to go ahead at the present time. My own personal feeling is that an index by subject matter as well as by author would make such a publication even more valuable, but this would be even more expensive.

I will be glad to have your reactions to what I have said and we want you to know that we will be very glad to cooperate with you and other librarians in every possible way to make this publication more useful.

* * *

To The SCI-TECH Mail Bag:

I am in qualified disagreement with the views expressed in the Winter 1960 issue of SCI-TECH NEWS, that a Library Committee is not necessary after a librarian has been employed to organize a library. After

having organized three research and technical libraries, I only discovered the value of such a committee in the third instance.

Briefly, a Library Committee was appointed by the Director of Research. This committee was representative of the professional research staff who were the primary users. I was a member of this committee, but not the chairman. The first function of this committee was to give advice and determine the policy which later became the library regulations. As a member of this committee, I was able to project ideas into the discussion and initiate suggestions which I used as a guide in planning and organization. The members of the committee also assisted in taking surveys of the group which each represented, so that the needs of the majority of prospective library users were fulfilled.

Although this committee was relatively inactive after the first year, it remained in existence for about eighteen months. I feel that it was extremely useful, and although I was not obligated to follow the recommendations of the committee, I did find that their advice and suggestions were most helpful.

Since this representative committee prescribed the library regulations regarding circulation policies, etc., I find it a useful comeback when a patron comments on the strictness of these rules to remind him that the rules were devised by a committee representing all the research departments. Usually no further explanation is necessary and no further objections are raised.

Finally, I would like to emphasize that this Library Committee in no way interfered with the administration of the library. To the contrary, the committee, acting in an advisory capacity, was able to recommend useful purchases, i. e., reference books, back issues, etc., which were most needed.

Today we have a very practical and well-rounded collection, in part due to the excellent cooperation and assistance of the Library Committee.

If I found myself in a similar position of organizing another library, I should certainly take advantage of a similar arrangement.

Judith C. Leondar
ETHICON, INC.
Research Library
Somerville, N. J.

CORRECTION

FORMULAS FOR BOOK STACK CAPACITIES

J. TALLMAN, Engineering Librarian
University of California Library

I.

	Regular Monographs	Oversize Monographs	Bound Periodicals
			Average
Shelves set	12" High	16" High	14" High
Shelves/section (3')	6	4	5
Books/shelf			
a. Operating capacity	25	30	15
b. Full capacity	30	35	20
Total book section			
a. Operating capacity	150	120	75
b. Full capacity	180	140	100

II. Ratio in Engineering Library

	Percentage
Monographs, regular	30
Oversize monographs	3
Bound periodicals	87

III. Examples:

	No. of sections required for Operating Capacity	Full Capacity
30,000 monographs	200	166
3,000 oversize	25	21
67,000 bound periodicals	893	670
100,000 total volumes	1,118	857
50,000 total volumes	559	429
500,000 total volumes	5,590	4,285

These figures are based on extensive counts and double checking in the Engineering Library.

Category I would probably hold out quite well for non-engineering collection, but might be changed if size of oversize books is changed. We use 28½ cm for beginning oversize. Main library uses 25 cm, making more "regular" books oversize.

Category II would change according to the nature of the collection, and also according to breaking point of oversize books, as mentioned above. Also, the Main Library loses space by inter-shelving regular books and bound periodicals.

Category III shows how figures I & II can be used to calculate capacities for different anticipated total volumes.

NOTICE TO READERS FROM THE EDITOR

If you bothered to read the editorial in the Winter '60 issue, you will note the Editor would appreciate comments pro and con of material included, from his quiet and long suffering audience. With his usual ulterior motives, he's really hoping you will put a commemorative or fancy air mail stamp on the envelope for his (and Lois') stamp collection.

FILM:

"THE VICIOUS CIRCLE" by Calvin

Frustrated script writer tries to write a movie script on the sale of "widgets.' A real takeoff on company channels. In color, about 20 minutes.

Dear Frank:

I was recently appointed one of the SLA Representatives on the ASA Sectional Committee with the specific responsibility of working on the Steel Shelving Subcommittee. During this assignment I hope to provide the Committee with the particular requirements we Special Librarians have for metal shelving. To do this adequately I need to obtain information from as many SLA members as possible who have used metal shelving.

Specifically, I would appreciate the following information if you use steel shelving:

1. Who manufactured your shelving?
2. Was the vendor supplied specifications that the shelving should meet? If so, might we have a copy of the specifications and be advised as to the source of the specifications?
3. What unsatisfactory experiences have you had with the shelving in any of the following—or other—areas:
    1. Finish: Does it scratch, mar, or rust; is the finish still good or does it show signs of wear?
    2. Strength: Have any of your shelves bent under use? If so, what and how much did you store on them? Have any of your shelves warped? How effective are the brackets or shelf supports—have any of them broken, spread or bent and become unusable?
    3. Replacement or addition: Have you purchased any additional shelves, sections or component parts? Were you able to get quotations from three or more vendors; how close did the new match the old?
    4. Adjustability: Are your shelves readily removed and replaced? Has it been necessary to rearrange sections of your shelving and have you had any difficulty doing so?
    5. Special Features: By special features is meant any unique equipment such as built-in adjustable book ends, intermediate dividers, pull-out shelves, etc. Do your present shelves have any such features? Are there any which you would like were you to order new shelves?
    6. Other Comments: Have you experienced any other difficulty with steel shelving which you believe is correctable? Are there any special requirements for storage which you would like met by steel shelving manufacturers?

While the questionnaire is designed to unearth problems, difficulties and unusual requirements, I would also be interested in hearing from those SLA members who have steel shelving and found it problem-free.

G. E. Randall
IBM Research Library
P. O. Box 218
Yorktown Heights, N. Y.

In the Southern California area there is a character, writing under the name of Gnegie McClain, who has appalled the local gentry with doggerel and herewith are some examples. Gnegie claims to have translated this from a "famous" Roman librarian named Ex Libris. (Editor's note).

I

Librarians take care of the books
But sometimes neglect their looks.
To be stacked is fine,
And well dressed, divine
But with perfume—WOW! by Zooks.

II

Most librarians are easy on the throttle
But some are not this way with the bottle.
When they meet at the bar
They don't wander far,
Oh what a bibacious spectottle!

III

The ideal library is one in which the books are well stocked and the librarian well stacked.

SCI-TECH PUBLICATION REVIEW

The compiler of "A Word List of Periodicals in Aeronautics and Astronautics" is to be congratulated on his efforts in producing this most useful publication. The list contains information covering over 600 journals and for each title there is given (1) complete title, (2) frequency, (3) annual subscription cost in United States currency, (4) language, where not obvious, (5) government or society affiliation, if any, (6) former titles and titles incorporated, (7) address of publisher, and (8) a note on the contents.

In any publication of this kind, it is not difficult for the carping critic to find mistakes of omissions, but no-one who has himself attempted to do a job such as this as a labour of love would tend to be overcritical. From the introduction it is clear that Mr. Rife is himself well aware of possible shortcomings, but it is encouraging to note that he is willing to contemplate continuing his task as compiler of this list, and if only all its users will follow his instructions and advise him of "missing titles, errors in existing entries and the like," it is certain that Mr. Rife will find it unnecessary to apologise in advance for his second edition.

SCIENCE-TECHNOLOGY SERIALS

Compiled by
ANDREW S. GLICK

ADVANCES IN CRYOGENIC ENGINEERING
V.1, 1954-1959, annually, $13.50 each, Plenum Press, New York.
Proceedings of the National Conference in this new and high complex field of engineering.

BIOPHYSICAL JOURNAL
V.1, no. 1, September 1960, bimonthly, $6.00. Rockefeller Institute, New York.

COMMUNICATIONS' OF THE RESEARCH INSTITUTE FOR CHEMICAL INDUSTRIES
V.1, no. 1-4, 1959, Irregularly, $6.00 per volume. Hungarian Book Trading Company, Budapest 62 P.O.B.

COMPUTER ABSTRACTS AND COMPUTER NEWS
V.1, no. 1, January 1957, monthly, $96.00. Technical Information Company, Limited, London, WC2, England.
Attempts to put under one cover the essence of the vast amount of information on computers and computation which is scattered throughout a world-wide range of scientific and technical literature. Trade literature announcements, news and views of the industry and other matters of a more ephemeral nature are contained in the monthly insert of COMPUTER NEWS.

COMPUTING REVIEWS
V.1, no. 1, February 1960, bimonthly, $10.00. Association for Computing Machinery, New York.
Primary purpose is to supply computer-oriented scientists in mathematics, engineering, the natural and social sciences, and other areas, with critical information on significant current publications in the broad area of computers, anywhere in the world, in any language.

CURRENT CONTENTS OF SPACE AND PHYSICAL SCIENCES
V.1, no. 1, January 1961, weekly, $100.00, Institute for Scientific Information, Philadelphia, Pennsylvania.
Journal is resigned to overcome the highly specialized yet inter-disciplinary character of modern research and the tremendous growth in the volume of scientific publications.
This is a comprehensive service reporting over 110,000 individual articles per year, appearing in more than 425 foreign and domestic journals.

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS
V.1, no. 1, June 1960, weekly, $7.00, OTS, Washington, D. C.
Review of scientific and technical articles appearing in the Soviet press, and of significant new Russian books. Time lapse of the appearance of an original article and its review in the weekly, is no more than a few weeks.

INTERNATIONAL AEROSPACE ABSTRACTS
V.1, no. 1, January 1961, monthly, IAS corporate member $40.00, IAS member $20.00. Institute of the Aerospace Sciences, Inc., New York.
A fast, comprehensive coverage of the world's aerospace literature. Abstracts of the latest reports, periodical articles, meeting papers, and books important to aerospace technology.
Abstracts are numbered serially for easier location and an author index is provided in each issue.

INTERNATIONAL PLASTICS ENGINEERING
V.1, no. 1, February 1961, monthly, $7.50, Temple Press, Limited, London EC 1, England.

JOURNAL OF CHEMICAL DOCUMENTATION
V.1, no. 1, January 1961, semi-annually $7.00, to ACS members, $10.00 to non-members American Chemical Society, Washington, D. C.
Concerned with the whole art and science of chemical documentation — the process of revealing and using specific chemical knowledge.

JOURNAL OF KINETICS AND CATALYSIS
V.1, no. 1, May-June 1960, bimonthly, $150.00, Consultants Bureau, New York.
A cover-to-cover translation of a new Russian Journal. Will contain original theoretical and experimental papers on catalysis and kinetics of chemical transformations in gases, solutions, and solid phases, as well as review articles.

JOURNAL OF STRUCTURAL CHEMISTRY
V.1., no. 1, May-June 1960, bimonthly, $80.00, Consultants Bureau, New York.
A cover-to-cover translation of the Russian journal ZHURNAL STRUKTURNOI KHIMII. Primarily deals with current Soviet research on the structural chemistry or organic and inorganic compounds.

KYBERNETIK
V.1, no. 1, January 1961, irregularly, $20.00, N. Wiener, Harvard University, Boston, Mass.
Publication aims to present findings in information theory of automata and control systems, mathematical foundations of communication theory, sensory processes and micro-and machophysiology of the central nervous system in relation to information handling, and other related topics.

NUCLEAR ENGINEERING ABSTRACTS
V.1, no. 1, January 1960, quarterly, $8.50, Silver End Documentary Publications, Limited, London W. 1, England.

NUCLEAR FUSION JOURNAL
V.1, no. 1, January 1961, quarterly, $10.00, per four issues. International Atomic Energy Agency, Vienna 1, Austria.
Contains reports of original work and review articles concerning plasma physics and controlled thermonuclear fusion research. Letters to the Editor, shorter communications and bibliographic material are included. Manuscripts are accepted in English, French, Russian and Spanish and printed in the original language. Abstracts are translated and printed in the four languages.

SOVIET REVIEW
V.1, no. 1, January 1960, monthly, $6.00, International Arts and Sciences Press, Uew York.
A source of first-hand information on Soviet social literary, and scientific developments through direct translation by the most authoritative Soviet writers, artists, scientists, and social critics.

SOVIET SCIENCE IN TRANSLATION
V.1, no. 1, January 1960, monthly, $25.00, Consultants Bureau, New York.
A complete and advance listing of all articles contained in the 73 continuing cover-to-cover English language versions of Russian scientific journals. Formerly titled SOVIET SCIENCE AND TECHNOLOGY.

SOVIET SPECTROSCOPY
Optical Society of America, New York.
Translation of Russian journal OPTIKA I SPEKTROSCOPIYA. Free to OSA members. Available to subscribers to JOURNAL OF THE OPTICAL SOCIETY.

INDEX OF SCIENCE-TECHNOLOGY SERIALS PRINTED IN SCI-TECH NEWS FOR 1960

Compiled by Andrew S. Glick

Abstracts Journal of Metallurgy, Part B
Advances in Inorganic Chemistry and Radiochemistry
Air Engineering
American Book Publishers Record
Analytical Biochemistry
Antibiotics
Biochemical and Biophysical Research Communications
Books to Come
British Power Engineering
Chemical Titles
Chemotherapia
Clinical Pharmacology and Therapeutics
Coke and Chemistry
Contemporary Physics
Copper Abstracts
Cryogenics (British)
Doklady Akademii Nauk USSR.
Electrochemica ACTA
Fuel Abstracts and Current Titles
Gas Turbine Magazine
Genetical Research
Glass and Ceramics
Graphic Science
Grundlagen van Anwendungen der Informationstheorie
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International Instrument Review
International Journal of Heat and Mass Transfer
International Journal of Mechanical Services
Journal of Education for Librarianship
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Journal of Mathematical Physics
Journal of New Drugs
Journal of Nuclear Energy
Journal of Space Flight
Magazine of Research Development
Mathematical Tables and Other aids to Computations
Mathematics of Computation
Paper Technology
Perspective (British)
Polymer
Polymer Newsletter
Polymer Science
Problems in Information Storage and Retrieval
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Space World
Structural Mechanics
Technische Uberwachung
Technology and Culture
Theory of Probability and Its Applications
Tsvetnye Metally
Washington Space Letter

NOTES

The Sci-Tech Division's Committee on Division and Section Structure will present for information of the Division's members an explanation of their findings thus far, and for the Committee's information, a questionnaire to find out how you feel about the existing Division and Section structure, especially how well it performs its functions. The questionnaire will appear this Spring. The Committee urges you to return the questionnaire within one week for tabulation and analysis of results in time for recommendations to be presented to the Sci-Tech Council in May.

Lois Erwin Godfrey

Science-Technology Division

ADVISORY COMMITTEE MEETING

The meeting of the Advisory Committee of the Science-Technology Division convened at 9:00 A. M., February 18, 1961 at the Hotel Muehlebach in Kansas City. Those present included Margaret Anderson, Charles K. Bauer, John M. Bobb, Lou Canter, Jolan M. Fertig, Robert Gibson, Efren Gonzales, Betty Hale, Ann Howard, Joan M. Hutchinson, Carl H. Losse, Ethyl Lyon, Margaret E. Madden, Janet Malcolm, Gordon E. Randall, Helen Redman, W. H. Richardson, Hubert Sauter, Margaret Sturgis and H. S. White.

REPORTS OF THE OFFICERS

The minutes of the previous meeting were accepted as corrected by C. K. Bauer. The treasurer reported a balance of $2,646.46 as of January 31, 1961.

The Vice Chairman's major responsibility is the planning and coordination of the Division and Section programs and business meetings for the annual convention. Section meetings will be held on Monday, March 29. On Wednesday morning there will be a joint meeting with the Documentation Division and a panel discussion on Wednesday afternoon. An Advisory Committee meeting is scheduled for Tuesday with a business meeting on Wednesday afternoon.

SECTION REPORTS

Reports were received from the Chemistry, Engineering, Paper & Textiles, Petroleum, Pharmaceuticals, and Public Utilities Sections. Because the report of the Vice Chairman covered the convention, this aspect of the Section reports was deleted from the presentation.

Chemistry reported that the subject heading list for Chemistry was in progress. Les Poland who has been serving as editor of Documentation Digest wishes to be replaced. Approximately 18 members have been contributing abstracts. The recruitment program started in 1959 has slowed down. One of the problems of the Section has been its size and communication with members has been difficult.

The Engineering Section reported that the by-laws are being revised after comments received at the Cleveland meeting. The changes will be coordinated with Margaret Firth, Division By-laws Chairman, prior to submitting to Section members for approval. The Library bulletins collected by Keith Blair for his talk at the 1960 convention are assembled and plans have been made to make them available for loan.

A membership directory of the Paper & Textiles Section, cross indexed by company, is being compiled for publication in May. Work is continuing on the "Bright Idea" scrapbook, the union list of periodicals and the textile subject heading list.

Members of the Petroleum Section worked with API and the University of Tulsa to establish an abstract service for exploration and production literature. One of the major problems of the Section stems from the split in interest of the members between petroleum exploration and refining.

The Liaison and Bibliographic Services Committee of the Pharmaceutical Section continues to work closely with the Pharmaceutical Manufacturers Association Literature Committee on the mutual problems of literature control. A new project on statistics of facilities and staff of libraries in the Section is under consideration and will be discussed at San Francisco.

The Public Utility Section reported that its project on subject headings list was planned for publication during the year.

CHAPTER REPORTS

Chapter reports were received from Boston, New York, Philadelphia, and Southern California. These reports dealt with projects and meetings held and scheduled for the future the details of which have been and will be published in "Chapter, Section and Committee News" in **SCi-Tech News.** During the presentation of the reports, Herbert White stressed the desirability of offering some of the papers given at the Section meetings and of value to a wided audience to **Sci-Tech News** for publication.

Betty Hale, in commenting on the New York Chapter staffing of the Science Library exhibit at the AAAS meeting in December, pointed out that Chapters should be advised that such activities frequently required more than personnel. The exhibits had to be transported, tables and chairs rented, and the cost could be appreciable.

John Bobb, Oak Ridge Chapter president, stated that he had the information required to update "A Guide to the Publication Series of College and University Engineering Research Departments in the U. S." The resulting discussion indicated that the members of the Committee felt the publication project was a valid one but there was some question as to the propriety of presenting a project to the Advisory Committee when there was a Committee established to review proposed projects. It was moved and seconded that the project be referred to the Projects Development and Evaluation Committee with the recommendation that it be favorably considered for publication. The vote was 8 to 4 in favor of the motion.

The Rio Grande Chapter reported that its project on report series codes includes 7000-8000 cards for the dictionary arrangement. This will require approximately 250 pages of manuscript. the rearrangement by issuing agency will require a similar number of pages. The compilation is planned for late spring publication.

COMMITTEE REPORTS

Archives of the Division are in the process of reorganization and this is scheduled for completion within two months.

The ASTIA Committee, originally considered a short-term committee, finds that much remains to be done and that continued operation would be beneficial.

The Awards Committee reported that no suggestions were received in response to its appeal in the Winter issue of **Sci-Tech News** but that two nominations have been submitted to the SLA Professional Award Committee. It will actively seek suggestions for the two Division awards. Dr. Fertig asked for discussion on the possibility of increasing the number of Division awards. The valid accomplishments of the work of many of the Division members and the Association interest in limiting its own awards merit the consideration. The danger of granting too many awards, however, was recognized.

The current membership in the Duplicate Exchange program has dropped by four to 69. The chairman attended a meeting at the USBE and has publicized the program with three articles in **Sci-Tech News.**

Complete arrangements have been made by the Election Committee to handle the ballots of the annual election. The mailing of the ballots for the election will also include a by-laws revision and a survey request.

The membership of the Division has grown from 2240 as of February, 1960 to 2390. Section membership is as follows: No Section-226, Chemistry-1300, Engineering-1320, Paper & Textiles-120, Petroleum-291, Pharmaceuticals-294, Public Utilities-122.

The NSF Coordination Committee has been renamed the Foundation Committee and it has been primarily concerned with **Scientific Meetings.**

The Nomination Committee reported that the candidates for Vice-Chairman-Chairman Elect are Leslie B. Poland and Gordon E. Randall. The candidates for Secretary are Louise C. Lage and Frances M. Stratton.

The revision to the Sci-Tech Division procedures being accomplished by Lois Brock is to be considered a workbook and not a set of by-laws. Therefore, any procedures which are evolved that meet with the approval of the Procedures Chairman, the Division Chairman, and the Section, group or committee involved will be included.

The Professional Standards Committee is working with the SLA Committee and has been assigned the Services area. The draft-recommendations are to be submitted by April 15.

The Projects Development and Evaluation Committee has asked that it be relieved of the responsibility of initiating project suggestions. The Section and Group Projects Committee recommended that the two Committees be combined. These recommendations will be considered by the incoming Chairman.

Sci-Tech News is now under the editorship of Frank G. Bennett. The Advisory Committee should anticipate supporting it at a rate of $1200 per year. R. Tritschler has offered to index the last several years of **Sci-Tech News** and the Committee suggested that he be encouraged to include personal names of Division members in the index.

Over 80 copies of "The World List of Aeronauticals Journals have now been sold.

Scientific Meetings has a subscription list of 525 people. There are three issues a year printed as a cost of approximately $350.00 per issue. The subscription cost is $4.00 per year. The difference between the cost and the subscription revenue is approximately $1000 per year which has been released to the Division.

The Foundation Committee Chairman, Marguerite Ritchie, and Gertrude Bloomer recommended that **Scientific Meetings** be reorganized and given a recognized place within the framework of the SLA publication program.

After considerable discussion it was moved and seconded that **Scientific Meetings** be offered to the Association as an Association publication with the suggestions that:

1. Foundation support be sought.
2. The coverage be expanded.
3. The frequency of publication be increased from three to four times a year.
4. The present Editor and Business Manager be appointed to the Committee.

The vote on the motion was nine in favor, two opposed and one abstention.

The Committee on Division and Section Structure has prepared a questionnaire on which they would like the members of the Advisory Committee to serve as consultants. The purpose of the questionnaire is to determine the feelings of the Division members as to the adequacy of the Division and Section structures and the adequacy of the Section and Division planning for the conventions. The preliminary explorations led the Committee toward the belief that an organization as large as SLA needs to be divided into smaller working groups, possibly on a subject basis.

The Special Classification Committee has sent three subject heading lists to Marjorie Hyslop, Chairman of SLA Committee on Special Classifications. In the subsequent discussion it was stressed that other available lists should be forwarded to Fenton L. Kennedy so they might be available to any Association member.

The Heart of America Chapter is publishing a union list of serials which includes the Linda Hall collection.

The Wisconsin Chapter has a union list of periodicals which is available for consultation at the Milwaukee Public Library.

OTHER BUSINESS

Because the Division interest in the production of a report code to achieve a minimum standard of format in reports overlapped the interest of other Divisions and outside agencies and because the Documentation Division had not felt the need existed, the Division proposal to the Association Executive Board was returned for further exploration and need for such a code. The Executive Committee felt that the Rio Grande Chapters finding of 7000-8000 various numbering codes in use and the frequency with which ASTIA records reports as available only for inspection because the quality did not permit reproduction justified the Division's interest in the preparation of such a code. C. K. Bauer was made Chairman of the committee to undertake the preparation of a code.

No decision has yet been reached by SLA on the publication of the proceedings of the annual meeting.

The Committee was advised that there is under serious consideration a plan to put into the SLA By-laws the requirement that groups within Chapters obtain their revenue only from the Chapter. This would seem to deny to the Science-Technology Division any affiliation with its members at the Chapter level.

There has been some discussion about the formation of a new Section by those who are interested in the Housing area. It was uncertain whether they would apply for Section status with the Science-Technology Division or with the Social Sciences Division.

Dr. Gerlock's request for appointments for the 1962 Convention Committee will be the responsibility of the incoming Chairman.

Margaret Anderson volunteered the services of Helen Waldron as the Science-Technology Hospitality Chairman for the 1961 convention.

Technical Libraries which was a Science-Technology Division sponsored publication in the first edition is now recognized by the Division as a primary responsibility of Mrs. Strauss and a product for which it has no claim to revenue.

The McGraw-Hill invitation to visit its distribution center during the convention was appreciatively received.

NEW BUSINESS

C. K. Bauer presented an abstract on "The Special-Subject Information Center." The growth of this special service agency offers both advantages and challenges to the librarian. Dr. Fertig recommended that a serious article be prepared for one of the major scientific journals on the subject and the Committee concurred.

The meeting adjourned at 2:20 P. M.

Secretary's note: The discussions are presented above in the order of the agenda for some of the members of the Committee the meeting. Transportation schedules of some of the members of the Committee required that their reports be presented out of the normal sequence.

G. E. RANDALL for
Doris Banks
Secretary

"GOOD WILL TOWARD MEN"

By CARL S. WINTERS

Ten Commandments of Human Relations

There used to be three R's in education: readin', 'ritin', and 'rithmetic — now there is a fourth R — relations — HUMAN RELATIONS. As a simple guide in human relations I have written the ten commandments listed below.

I Thou shalt love people, not just use them.
The greatest thing in the world is a person.
The greatest thing about a person is his motive, and the greatest motive is love.

II Thou shalt develop thy understanding.
"If every man's care were written on his brow How many would our pity share, who bear our envy now."

III Thou shalt compliment more than criticize.
You had better cover your neighbor's fault with a cloak of charity.
You may need a circus tent to cover your own.

IV Thou shalt not get angry.
If you are right you don't need to.
If you are wrong you can't afford to.

V Thou shalt not argue.
It's no use to win an argument and lose the people.
Beware of the attitude which says:
"In matters of controversy, my attitude is fine.
I always see two points of view
The one that's wrong and mine."

VI Thou shalt be kind.
You had better be kind to people you meet on the way up, they are the same people you meet on the way down.
It's nice to be important, but it's important to be nice.

VII Thou shalt have a sense of humor.
A sense of humor is to a man what springs are to a wagon.
It saves a lot of jolts.

VIII Thou shalt smile.
No man is ever fully dressed until he has a smile on his face.
"Powder your face with sunshine,
Put on a great big smile.
Make up your eyes with laughter,
Folks will be laughing with you in a little while.
Whistle a tune of gladness,
Gloom never was worth while.
The future's brighter when hearts are lighter,
So smile, smile, smile."

IX Thou shalt practice what thou preachest.
One example is worth a thousand arguments.

X Thou shalt go to school to the Headmaster of the Universe, the Master of men, the Secretary of Human Relations — namely, Jesus Christ. He is the greatest leader of men the world has ever known.

SCI-TECH NEWS

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